FIG. 1

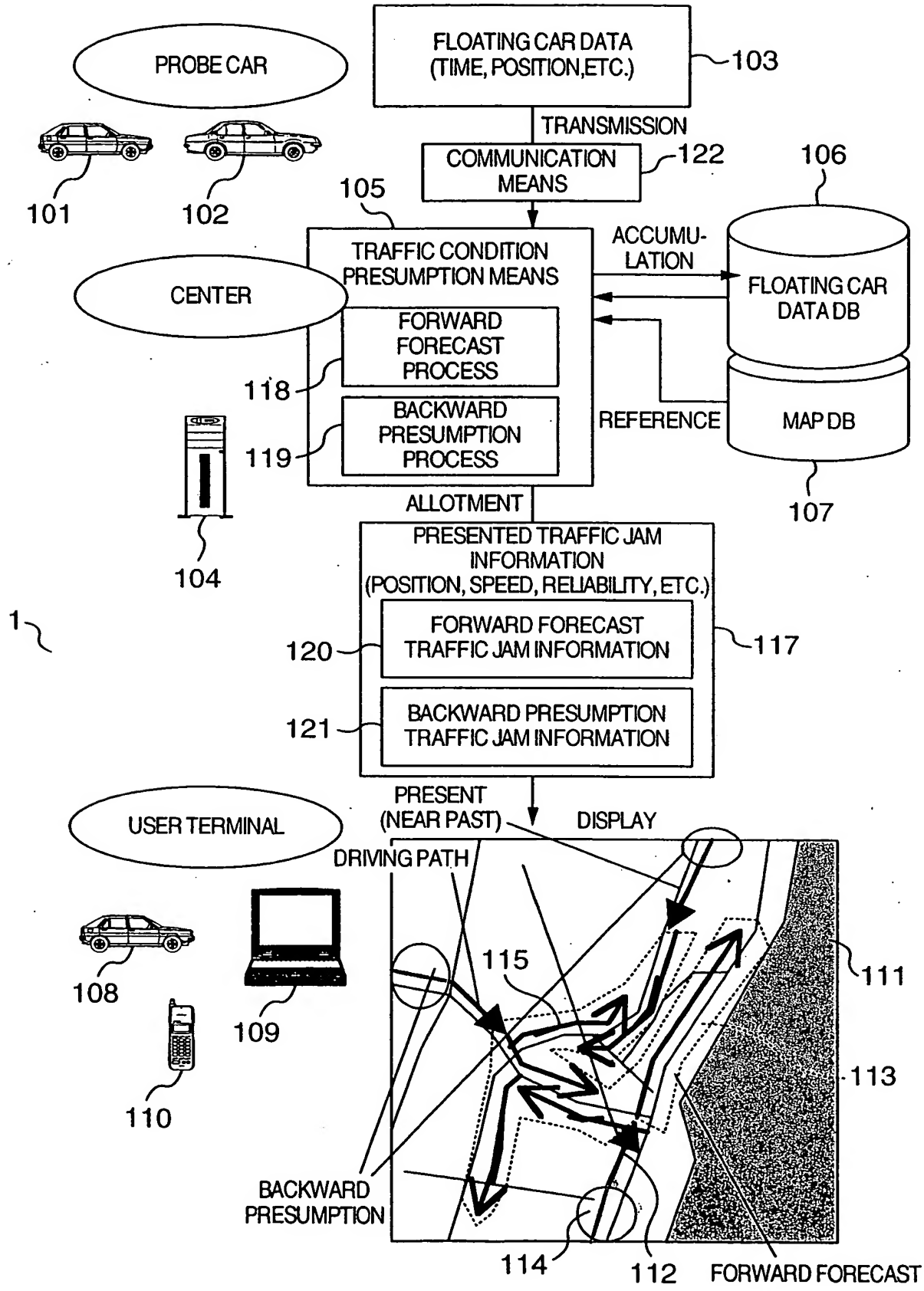

PROBE CAR
FLOATING CAR DATA (TIME, POSITION,ETC.)
103
TRANSMISSION
COMMUNICATION MEANS
122
106
105
101
102
TRAFFIC CONDITION PRESUMPTION MEANS
ACCUMU-LATION
CENTER
FLOATING CAR DATA DB
FORWARD FORECAST PROCESS
118
BACKWARD PRESUMPTION PROCESS
119
REFERENCE
MAP DB
107
104
ALLOTMENT
PRESENTED TRAFFIC JAM INFORMATION (POSITION, SPEED, RELIABILITY, ETC.)
1
FORWARD FORECAST TRAFFIC JAM INFORMATION
120
117
BACKWARD PRESUMPTION TRAFFIC JAM INFORMATION
121
PRESENT (NEAR PAST)
DISPLAY
USER TERMINAL
DRIVING PATH
115
111
108
109
113
110
BACKWARD PRESUMPTION
114
112
FORWARD FORECAST

FIG. 2

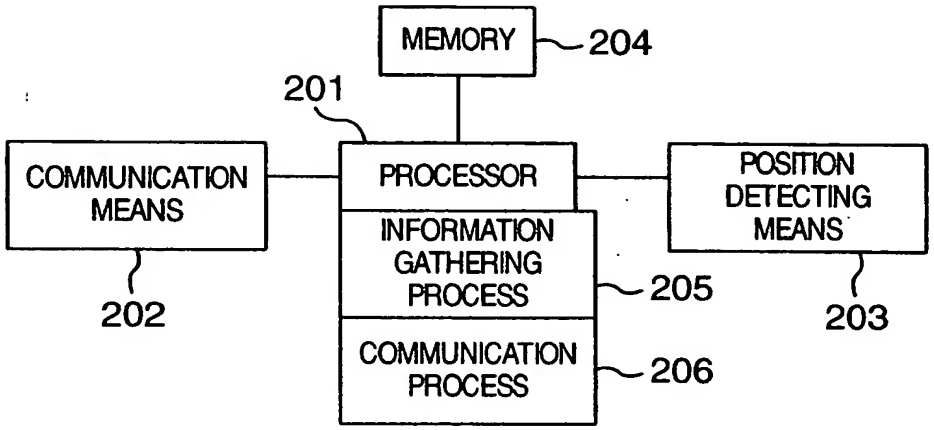


FIG. 3

VEHICLE ID = 0001

INFORMATION ID	TIME	POSITION	DIRECTION	SPEED	SPEED AVERAGE	SPEED LAST INFORMATION ID
0013	2000/12/07 19:24:15	139° 11'11.1"E 35° 11'11.1"N	250°	20km/h	15.5km/h	0012
0014	2000/12/07 19:24:25	139° 22'22.2"E 35° 22'22.2"N	240°	0km/h	5.5km/h	0013
0015	2000/12/07 19:24:35	139° 22'22.2"E 35° 22'22.2"N	230°	0km/h	0.0km/h	0014
0016	2000/12/07 19:40:14	139° 22'22.2"E 35° 22'22.2"N	110°	0km/h	0.0km/h	0000
0017	2000/12/07	139° 33'33.3"E	120°	40km/h	20.0km/h	0016

106

FIG. 4

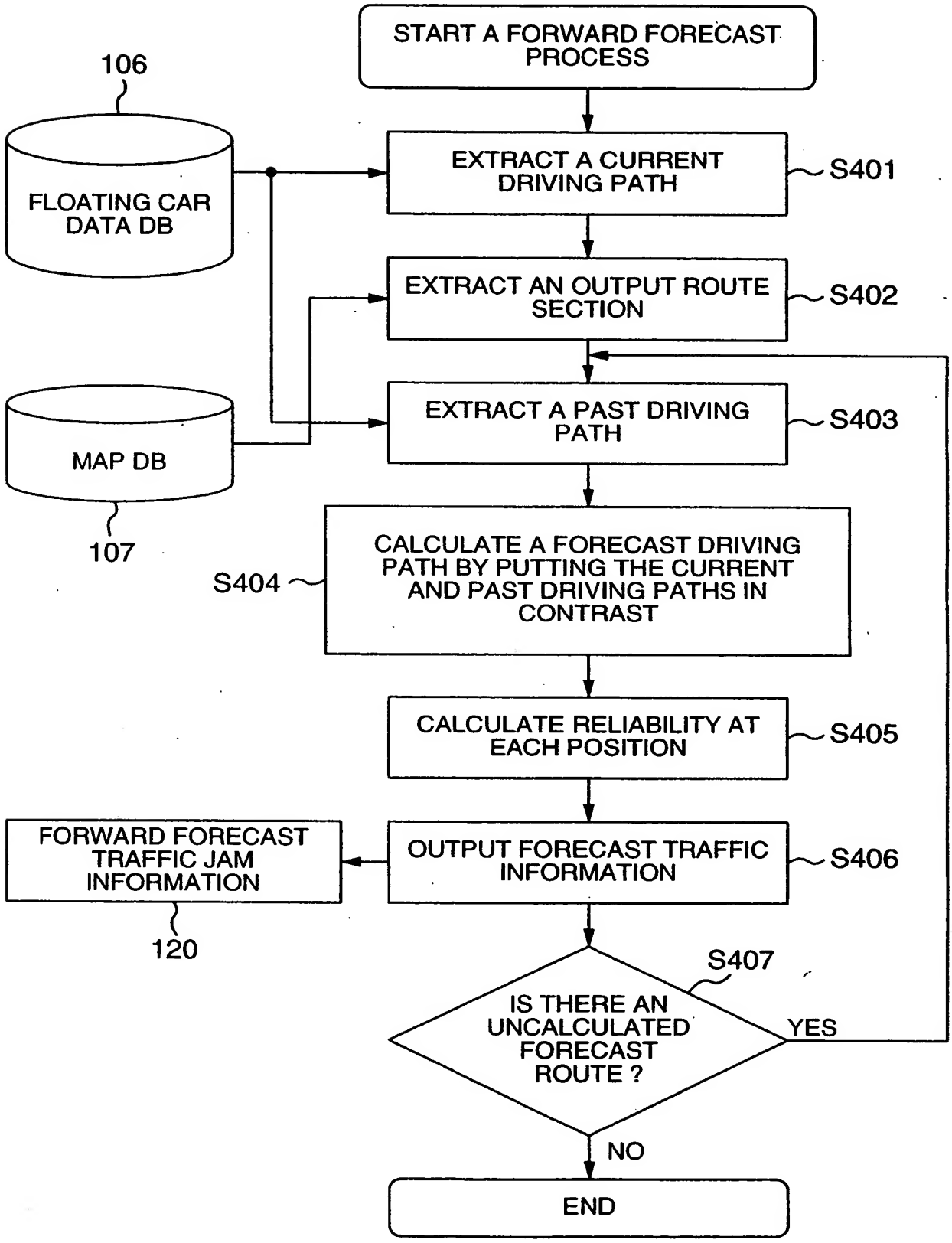

START A FORWARD FORECAST PROCESS
106
FLOATING CAR DATA DB
EXTRACT A CURRENT DRIVING PATH
S401
EXTRACT AN OUTPUT ROUTE SECTION
S402
MAP DB
107
EXTRACT A PAST DRIVING PATH
S403
S404
CALCULATE A FORECAST DRIVING PATH BY PUTTING THE CURRENT AND PAST DRIVING PATHS IN CONTRAST
CALCULATE RELIABILITY AT EACH POSITION
S405
FORWARD FORECAST TRAFFIC JAM INFORMATION
120
OUTPUT FORECAST TRAFFIC INFORMATION
S406
S407
IS THERE AN UNCALCULATED FORECAST ROUTE ?
YES
NO
END

FIG. 5

	501 CURRENT DRIVING PATH	502 PAST DRIVING PATH 1	503 PAST DRIVING PATH 2	504 ..	505 PAST DRIVING PATH N	506 FORECAST DRIVING PATH	
DISTANCE [m]	LOCATION SPEED [km/h]						RELIABILITY
0	50	–	55		56	50	100
10	51	–	56		60	51	100
20	55	–	60		62	55	100
30	56	–	62		60	56	100
:	:	:	:		:	:	:
100	50	30	40		44	50	100
110	48	33	42		43	48	100
120	49	35	45		42	49	100
:	:	:	:		:	:	:
480	35	15	9		40	35	100
490	32	20	5		42	32	100
500	–	15	9		30	26	95
510	–	20	5		35	28	95
520	–	23	10		32	25	90
530	–	25	12		26	25	90
540	–	26	13		25	25	85
:	:	:	:		:	:	:
1160	–	35	40		50	40	40
1170	–	39	42		55	45	35
1180	–	40	45		56	43	35
1190	–	41	50		60	50	30

FIG. 6

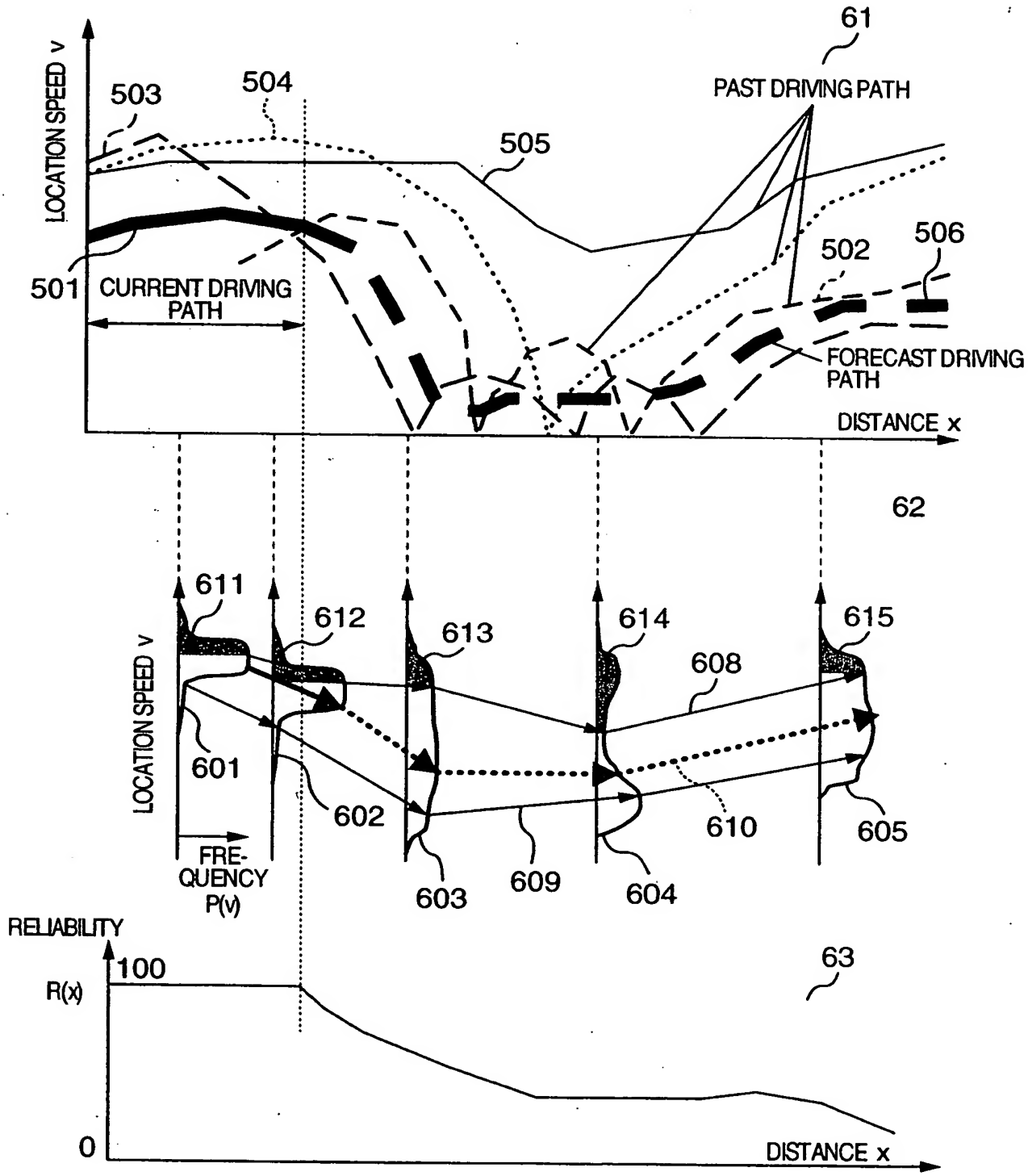

61
PAST DRIVING PATH
LOCATION SPEED v
503
504
505
506
502
501
CURRENT DRIVING PATH
FORECAST DRIVING PATH
DISTANCE x
62
611
612
613
614
615
608
601
602
610
605
603
609
604
FRE-QUENCY P(v)
RELIABILITY
100
R(x)
63
0
DISTANCE x

FIG. 7

ROUTE ID	STARTING POSITION	ENDING POSITION	AVERAGE SPEED	REQUIRED TIME	SITUATION	RELIABILITY
0001	139° 11'11.1"E 35° 11'11.1"N	139° 22'11.1"E 35° 22'11.1"N	20km/h	134 SEC	CONGESTED	80
0001	139° 22'11.1"E 35° 22'11.1"N	139° 22'22.2"E 35° 22'22.2"N	40km/h	450 SEC	SMOOTH	100
0001	139° 22'22.2"E 35° 22'22.2"N	139° 22'33.2"E 35° 22'33.2"N	10km/h	643 SEC	JAM	75
0002	139° 22'33.2"E 35° 22'33.2"N	139° 22'44.2"E 35° 22'44.2"N	–	–	UNCLEAR	0
0002	139° 22'44.2"E	139° 33'33.3"E	40km/h	370 SEC	SMOOTH	80

117

FIG. 8

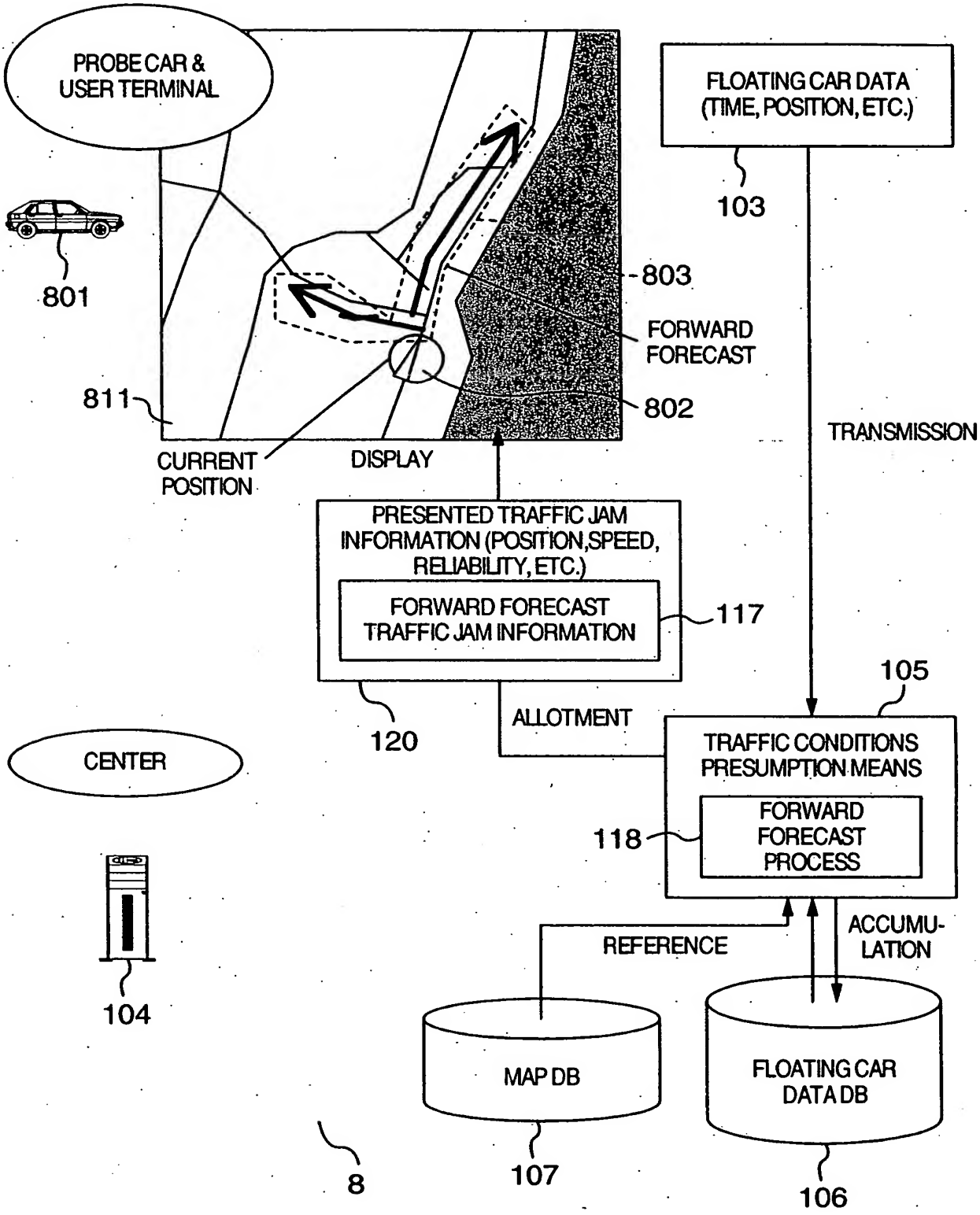

PROBE CAR &
USER TERMINAL
801
811
CURRENT
POSITION
DISPLAY
803
FORWARD
FORECAST
802
FLOATING CAR DATA
(TIME, POSITION, ETC.)
103
TRANSMISSION
PRESENTED TRAFFIC JAM
INFORMATION (POSITION,SPEED,
RELIABILITY, ETC.)
FORWARD FORECAST
TRAFFIC JAM INFORMATION
117
120
ALLOTMENT
105
TRAFFIC CONDITIONS
PRESUMPTION MEANS
118
FORWARD
FORECAST
PROCESS
CENTER
104
REFERENCE
ACCUMU-
LATION
MAP DB
FLOATING CAR
DATA DB
107
106
8

FIG. 9

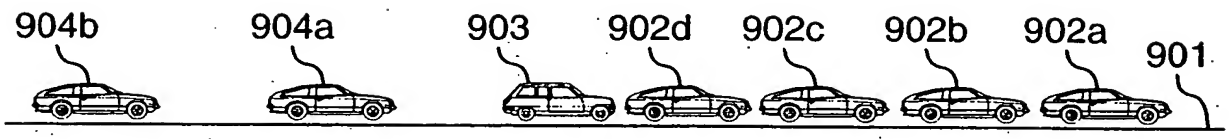

904b
904a
903
902d
902c
902b
902a
901

FIG. 10

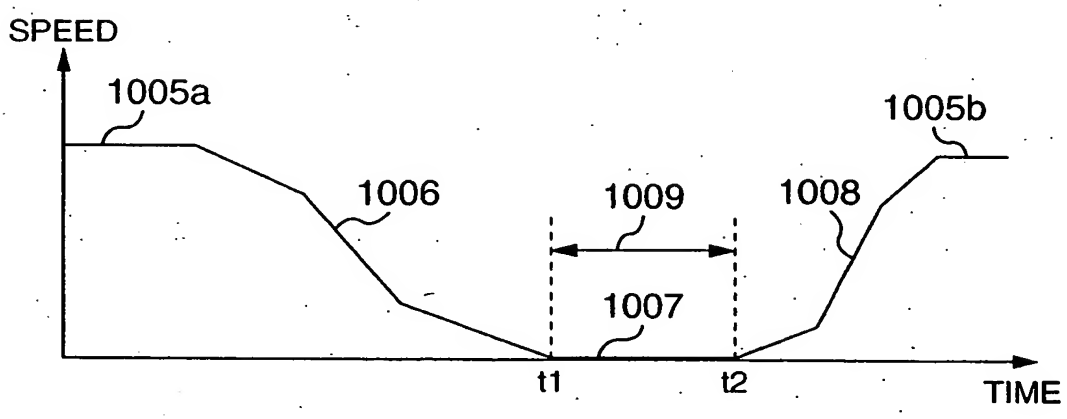

SPEED
1005a
1006
1009
1008
1005b
1007
t1
t2
TIME

FIG. 11

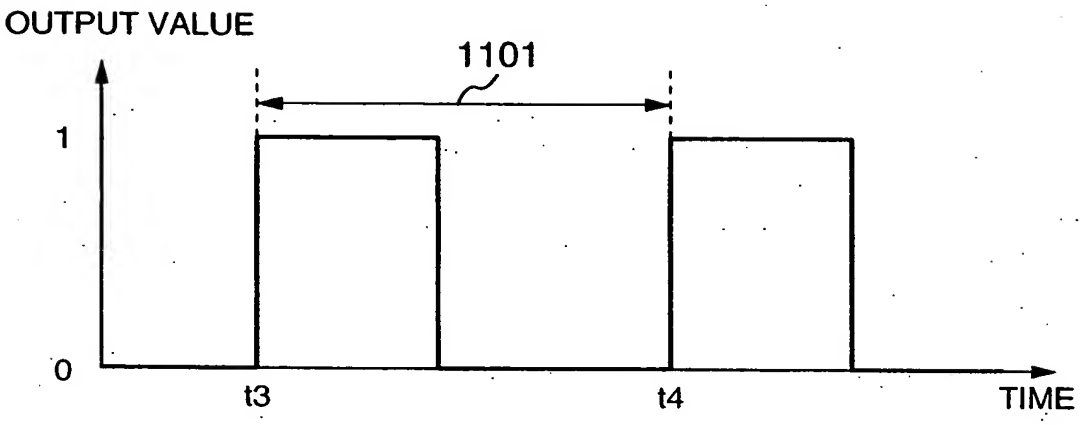

OUTPUT VALUE
1101
1
0
t3
t4
TIME

FIG. 12

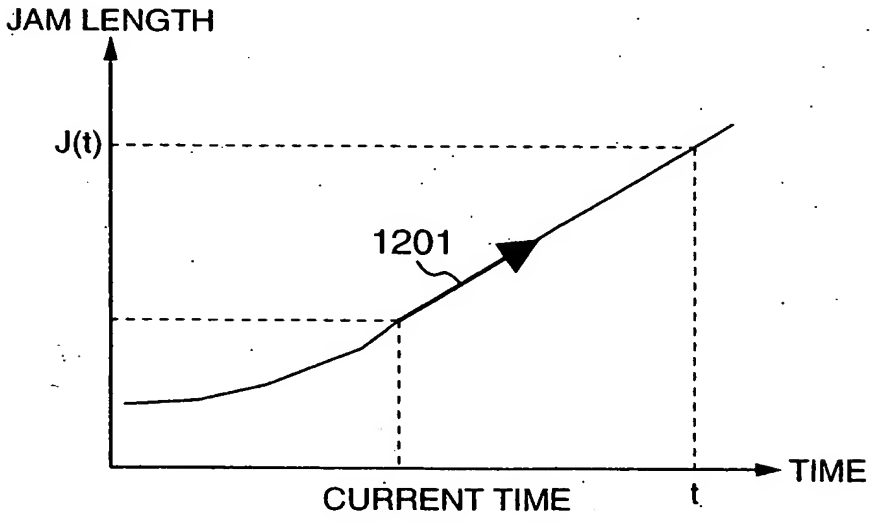

JAM LENGTH
J(t)
1201
TIME
CURRENT TIME
t

FIG. 13

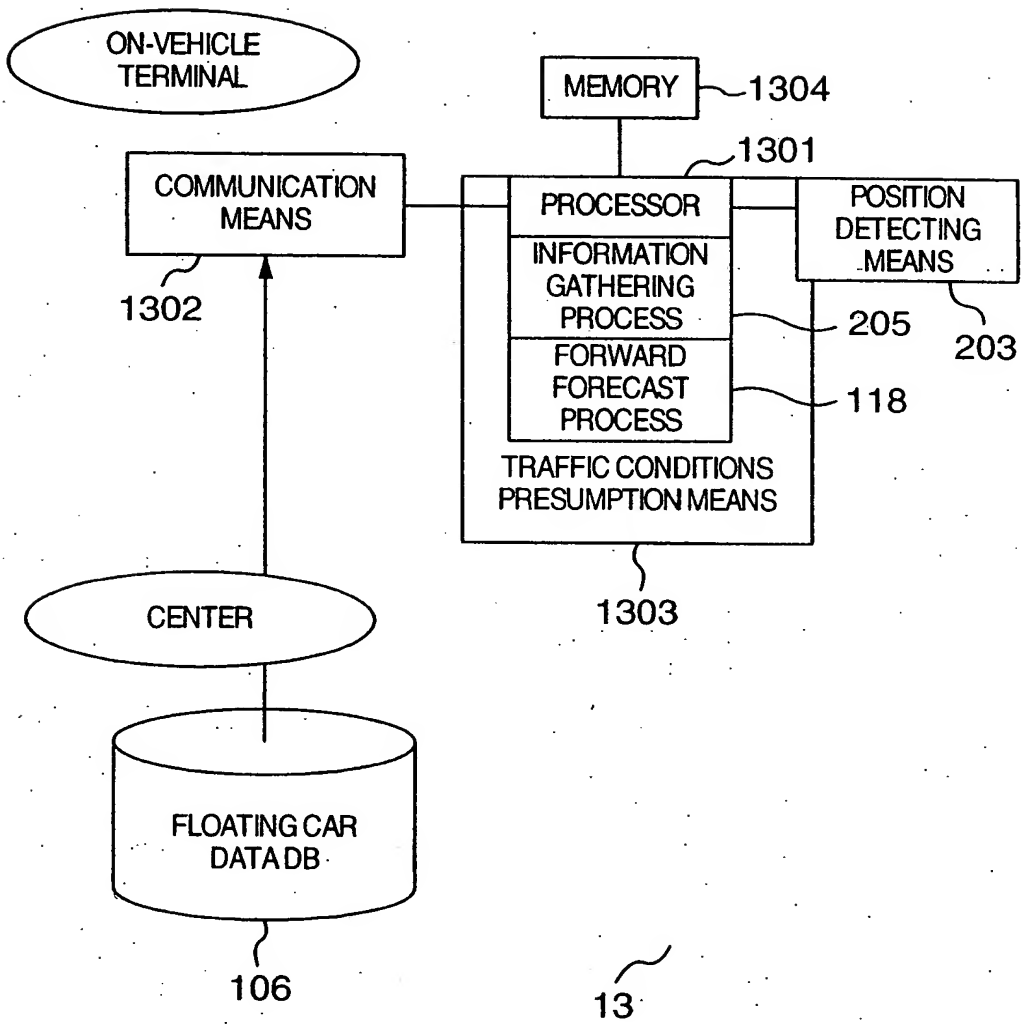

ON-VEHICLE TERMINAL
MEMORY
1304
1301
COMMUNICATION MEANS
PROCESSOR
POSITION DETECTING MEANS
INFORMATION GATHERING PROCESS
205
203
FORWARD FORECAST PROCESS
118
TRAFFIC CONDITIONS PRESUMPTION MEANS
1302
1303
CENTER
FLOATING CAR DATA DB
106
13

FIG. 14

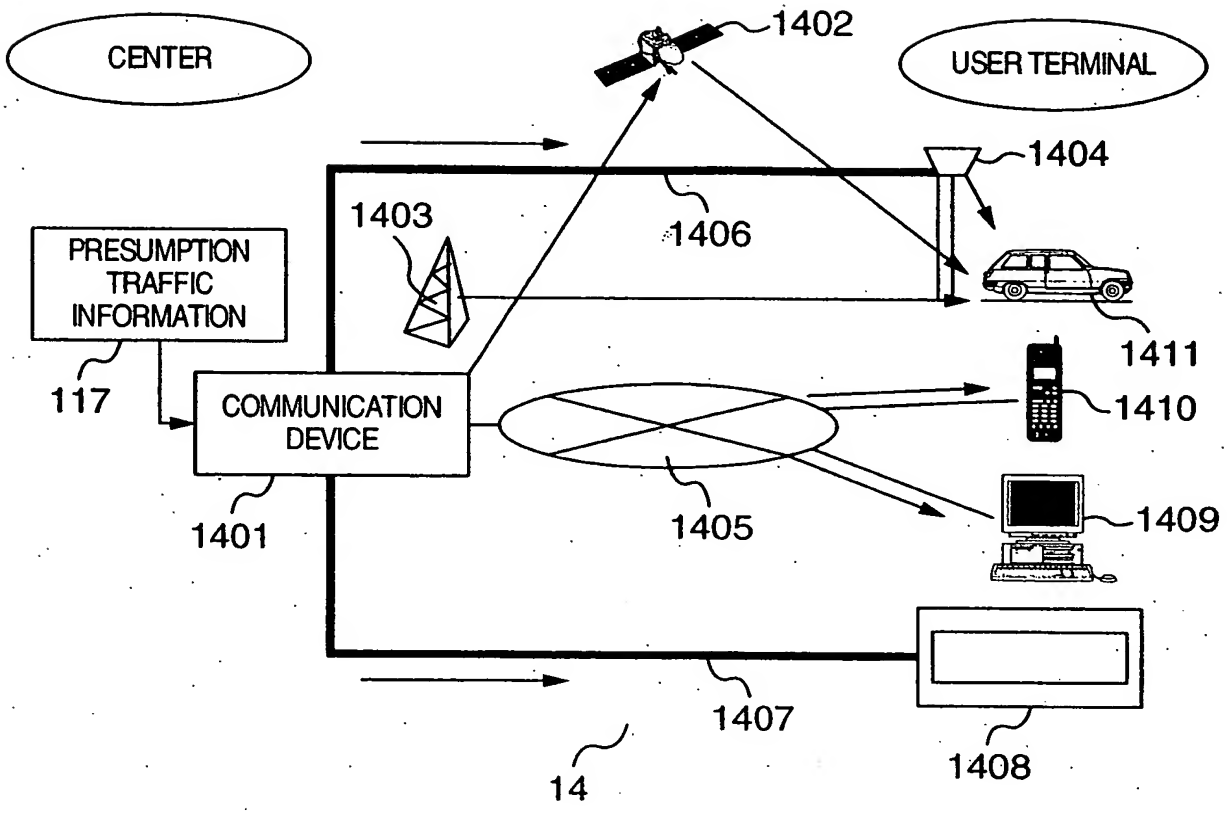
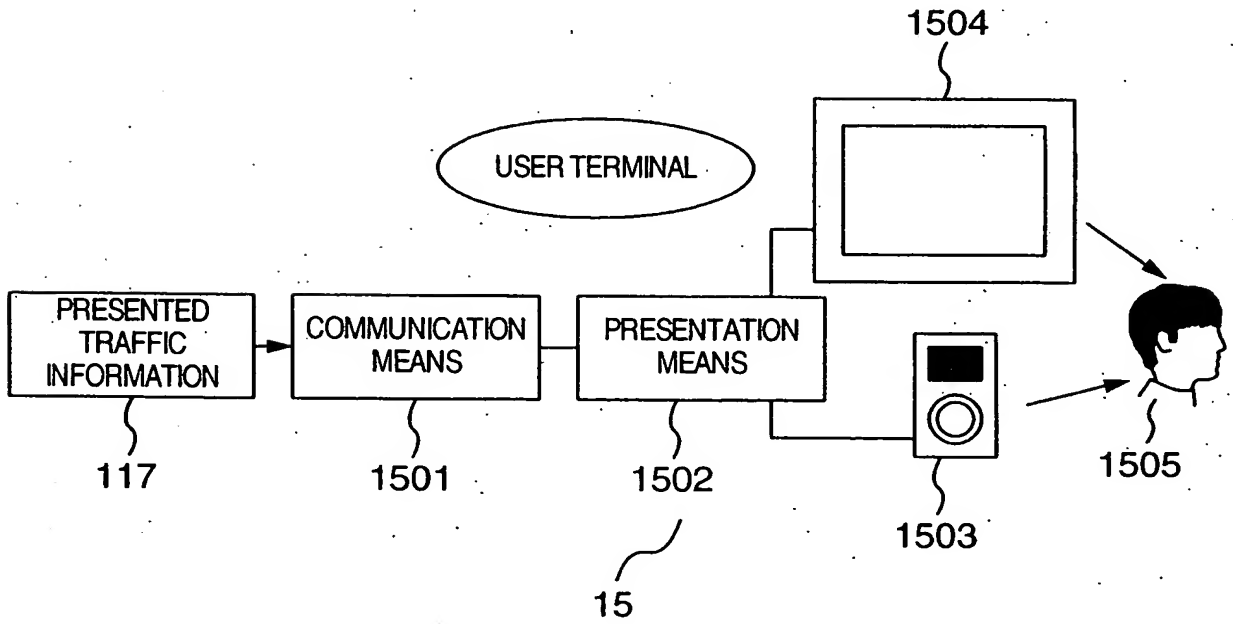

CENTER
1402
USER TERMINAL
1404
1403
1406
PRESUMPTION TRAFFIC INFORMATION
1411
117
COMMUNICATION DEVICE
1410
1401
1405
1409
1407
1408
14

FIG. 15


1504
USER TERMINAL
PRESENTED TRAFFIC INFORMATION
COMMUNICATION MEANS
PRESENTATION MEANS
1505
117
1501
1502
1503
15